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Maneuver



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Submissions: We solicit articles and reader's comments. Contributions of 1,500 words or less are ideal. Submit contributions, double-spaced in MS Word. Include name, title, complete unit address, telephone numbers, and e-mail address. Graphics can appear in an article, but you must also provide a **separate computer file for each graphic and photograph (photos must be 300 dpi)**. Send e-mail submissions to alsadirector@langley.af.mil. ALSA Center reserves the right to edit content to meet space limitations and conform to the *ALSB* style and format. **Next issue: September 2009. Submission DEADLINE: COB 1 July 2009.** Theme of this issue is *Unmanned Aircraft Systems (UAS)*.

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Cover photo— US Army Soldiers assigned to Alpha Company, 2nd Brigade, 101st Airborne Division (Air Assault) stand by as helos take off in Iskandaria, Iraq, during an operation, 20 Dec 2007. (US Navy photo by Petty Officer 2nd Class Kim Smith)

Director's Comments

The mission of the Air Land Sea Application (ALSA) Center is to rapidly develop MTTP to meet the immediate needs of the warfighter. We are committed to solving interoperability problems for the Soldiers, Sailors, Airmen, Marines, and Coast Guardsmen who live and fight at the tactical level of war, and the purpose of the *Air Land Sea Bulletin (ALSB)* is to provide a forum for warfighters to discuss "what worked" and "what needs to get fixed." Currently, we have 11 active projects in various phases of development with 8 additional publications going into research for revision later this year. Right now, look for the newly revised *Tactical Convoy Operations (TCO)* with an entire new section that addresses counter-improvised explosive device operations and convoy reactions. Following closely behind are revisions of *Integrated Air Defense Systems (IADS)*, and *Joint Air Traffic Control (JATC)*. Both of these publications should be released in the next couple of months. Additionally, we have two new publications nearly complete: *Airspace Control (AC)* and *Tactical Chat*. AC is the Army and Air Force MTTP providing guidance for allocating airspace in support of the commander's operational plan, and *Tactical Chat* provides commanders and their units with guidelines to facilitate coordination and integration of chat when conducting multi-Service/joint force operations. Look for both of these publications in the next 6 months. You can download all of our pubs from the ALSA website or order them through your Service's publication distribution system. The theme for our September 2009 *ALSB* is "Unmanned Aircraft Systems" with article submissions due 1 July 2009, and the theme for our January 2010 *ALSB* is "Irregular Warfare" with 1 November 2009 as the suspense for articles.

This issue of the *ALSB* focuses on "Maneuver" and contains a wide diversity of articles from experts in the field who are creating new forms of maneuver to account for an enemy who does not wish to present a recognizable form. We begin with MAJ Schultze who presents the case for "the patrol base (PB)" as a new form of maneuver to prosecute operations in a counterinsurgency (COIN) environment. He leverages his integration experience with 3rd Infantry Division in Multi-National Division Center (MND-C) and

their success using the PB concept. Capt Avriett provides an overview of recent upgrades to the Joint Surveillance Target Attack Radar System (JSTARS) and how JSTARS can support targeting for the maneuver commander in today's counter-insurgent fight. Next, MAJ Egan discusses how the joint fires observer (JFO) is an enabler for the maneuver commander and the benefits a JFO can provide to the maneuver commander in the joint fires arena. Mr. Le Fever discusses the 820th Security Forces Group and how these distinctive Airmen provide a unique base defense capability for commanders. They are uniquely trained in ground combat skills to operate and integrate with US Army/foreign security forces and support maneuver operations. Finally, COL Larry discusses the evolution of Army explosive ordnance disposal (EOD) since 9/11 and how EOD is now fully entrenched in support of the maneuver commander as part of the combined arms team.

On a personal note, I depart ALSA in May for duty as the 505 CCW/CV at Hurlburt Field, FL. The past 2 years working with tactical experts from all of the Services has been an extraordinary experience and taught me the value of capturing our successes and mitigating our shortcomings for the next generation of warriors. I would like to thank the ALSA Joint Actions Steering Committee, the Joint Doctrine Directors, and the action officers at ALSA who deserve special thanks for their hard work and dedication in ensuring the needs of the warfighter are exceeded in every publication. Finally, I would like to add a sincere thank you to our ALSA government civilians who do a herculean job keeping us all on track. Colonel Tom Gainey, USA, will take over as the Director of ALSA in May and will no doubt continue the great multi-Service reputation of the ALSA Center. Keep up the great work and good hunting.



STEVEN D. GARLAND
Colonel, USAF
Director

The Case for a New “Form of Maneuver”— the Patrol Base



Sgt Stuart Arnold, a Soldier with Headquarters and Headquarters Company, 2nd Brigade Combat Team, 3rd Infantry Division, pulls security in front of Patrol Base Meade, Arab Jabour, 15 Jan 2008. (USA photo by Sgt Michael Connors)

By
MAJ James M. Schultze, USA

How do you move forces to achieve a position of advantage over an irregular enemy when the enemy, by definition, avoids direct military confrontation in order to preserve his weaker forces in his war on political power vice the goal of military supremacy? This article defines a new form of maneuver—the patrol base (PB)—and shows how Multi-National Division Center (MND-C) forces used this form of maneuver to prosecute operations in a counterinsurgency (COIN) environment.

The current US Army “forms of maneuver” are found in Field Manual (FM) 3-90, *Tactics*.² These forms of maneuver have two common attributes: (1) Each form enables US forces to open a military engagement from a position of advantage (i.e., from the flank of or behind the ene-

my, at a key weak point in the enemy's position, or from the strength of overwhelming firepower). (2) Each form provides an inherent purpose around which the whole organization is synchronized. As long as US forces can conduct combat operations against a uniformed foe (that has a recognizable form), the current FM 3-90 “forms of maneuver” produce the offensive effect of rendering a decision. However, when the enemy refuses to don a recognizable form, he delays decisive results that could have been achieved through these forms of maneuver field tactics.

Physically, US forces can envelop the enemy insurgent with speed of ground or aerial maneuver and overwhelming firepower. However, the enemy counter-action of taking on a shapeless form within the population yields no battlefield decision to US forces entering the engagement, even with the distinct US advantages

“The commander generally chooses one form [of maneuver] on which he builds a course of action.”¹

in maneuverability and firepower. When US forces remount and leave the population center, the enemy merely resumes his insurgent form and continues enforcing his will on the area. This cycle of transitory security produced by traditional forms of maneuver yielded to a persistent, formless insurgent presence, which delayed tactical battlefield decisions until the COIN forces changed tactics. For example, when the US forces used the existing, traditional form of maneuver and attacked from their forward operating bases (FOBs) to envelop the enemy in the new area of operations (AO) called MND-C, the enemy merely hid his weapons in one of his innumerable cache points and blended into the populace. We found that using PB's as a new form of maneuver, MND-C forces could maneuver to prosecute operations in a COIN environment.

In January 2007, the 3rd Infantry Division (3 ID) deployed to Iraq as part of the surge of forces to secure the population of the southern Baghdad belts. As part of this surge, the 3 ID took charge of the MND-C AO and brought in additional brigade combat teams (BCTs), the 2 BCT (2/3 ID) and the 3 BCT (3/3 ID), to become part of the MND-C forces.

The 2/3 ID was assigned an AO previously occupied by a battalion-sized unit. The Arab Jabour AO had only three PBs forward, which meant the unit would regularly "drive to work" from a large FOB in order to patrol in its assigned AO. The 2/3 ID expanded the unit footprint within the AO by building eight new PBs or combat outposts (COPs) that enabled the 2/3 ID to conduct COIN operations from within the population centers.

The 3/3 ID was assigned a new BCT AO, Narhawan area, that had not received much coalition attention during the previous 4 years. It built 11 PBs, COPs, or joint security stations (JSS) in its new AO in order to establish a permanent presence

among the population. This enabled the 3/3 ID to conduct persistent security operations and maintain daily contact with the local population.



Army Sgt Jamie Boot of 3rd Platoon, Charlie Troop, 1st Squadron, 10th Cavalry Regiment, 2nd Brigade Combat Team, 4th Infantry Division, watches the area around a Sons of Iraq checkpoint during a joint patrol with Iraqi police in Tunis, Iraq, 28 Feb 2009. (USN photo by Petty Officer 2nd Class James Wagner)

The division decided not to house its combat units on the existing large FOBs to eliminate the requirement of driving to the required patrol areas. MND-C spent the money and expended the time and effort to build PBs in combat because the PB provides a form of maneuver that enables more than just a transitory battlefield effect against a formless enemy. The PB facilitated all of the division's lines of operation. MND-C's ground-owning brigades now operate from 57 PBs, having constructed 31 of them. These PBs cost an average of \$2.2 million and each required 30 days of construction effort to build. The illustration at the end of this article depicts an example of a patrol base.

MND-C constructed PBs as an offensive component of their COIN operations to take the initiative and live among the population. The PB became an offensive concept that allowed MND-C units to remain in the midst of the insurgents' sanctuaries and interact with the population on a 24/7 basis. The PB also provided an enduring reminder and cornerstone of hope for the local populace against the repression of terrorist insurgents.

MND-C constructed PBs as an offensive component of their COIN operations to take the initiative and live among the population.

"In the case of Arab Jabour, the local population had not seen sustained coalition force (CF) presence for over 15 months. While there were multiple short-term raid missions conducted by light forces throughout the area, their operations did not convince the local civilians that Al Qaeda's threat would be eliminated. Simply put, the local population was ready to fight Al Qaeda, but they weren't going to do it without sustained coalition force assistance. Building Patrol Base Murray showed local civilians that MND-C forces were committed to the security of their neighborhoods."³

In the case of Narhawan, it "was a Shi'a-extremist dominated area due to limited CF presence. The Shi'a-extremist organization had the ability to project their power at different times and locations with little CF restriction. Currently the Shi'a-extremists in Narhawan have lost the advantage and recent reflections indicate they have either gone to ground or have fled the area."⁴

Indirect fire attacks were reduced by over 80% and IED attacks decreased by 41%.



US Army Spc Holmes from 5th Squadron, 73rd Cavalry Regiment, 3rd Brigade Combat Team, 82nd Airborne Division, watches rooftops, windows, and balconies overlooking his position in a narrow alleyway, 28 Feb 2009, during a joint operation with the Iraqi army and US Soldiers in Rusafa, eastern Baghdad, Iraq. (USA photo by Staff Sgt James Selesnick)

Construction of PB Salie demonstrated to Narhawan that CF were there to stay. The establishment of a MND-C COP adjacent to the Narhawan Iraqi police station deterred extremist corruption and intimidation of legitimate law enforcement and demonstrated the coalition's long term commitment to unity between the Government of Iraq and CF. Attacks from 26 Apr 07

to 30 Sep 07 averaged 1 attack every 2.9 days. Attacks after establishing PB Salie decreased to 1 attack every 5.6 days. Indirect fire attacks were reduced by over 80% and IED attacks decreased by 41%. There has not been a single small-arms fire attack in the Narhawan Nahia since establishing COP Salie.⁵

The PB is a form of maneuver similar to the envelopment or turning movement that allows a unit to gain the initiative and positional advantage to begin the engagement against enemy forces. The PB seeks to establish a persistent capability and position within an enemy sanctuary area or contested population to enable the persistent prosecution of operations. Once constructed, the PB is a symbol of security and stability. Locals gain confidence in the security of the PB and begin to interact with Soldiers. Local citizens come to provide information and coalition patrols regularly leave the PB to approach and interact with the locals. These characteristics facilitate the 3 ID strategies of "clear, control, retain."

In the words of 2/3 ID, "The establishment of a patrol base in the task force area of operations facilitates division objectives through the following measures:

- It promotes more timely and effective command and control;
- It provides a location from which major task force operations can be staged;
- It provides for a quick recovery of personnel and equipment between missions while reducing exposure to potential hazards;
- It demonstrates coalition force resolve to the local populace;
- It provides a place from which enablers can react to the needs of the local community; and
- Its very existence provides opportunities for the local population—either by knowing it is there for sup-

port or to generate projects associated with the myriad of tasks inherent in sustaining it."⁶

The PB form of maneuver enabled 2/3 ID to conduct persistent area security operations throughout Arab Jabour, something the "driving to work" method could not accomplish. It gave MND-C a location from which all the division's efforts could be synchronized. In 3/3 ID, the PB provided a long-term location from which to conduct persistent interaction with the locals. In both cases, the BCTs were able to use the PB to positively address local security, governance, economic, and social challenges. Creating positive effects in these areas helped MND-C drive a wedge between the citizens and the insurgents, thus facilitating the

strategies of "clear, control, and retain."

In conclusion, MND-C found that the PB provided the key components of an offensive form of maneuver with the added advantage of providing a persistent form from which to attack a formless enemy.

END NOTE

¹ FM 3-90, *Tactics*, 4 July 2001, p. 3-11.

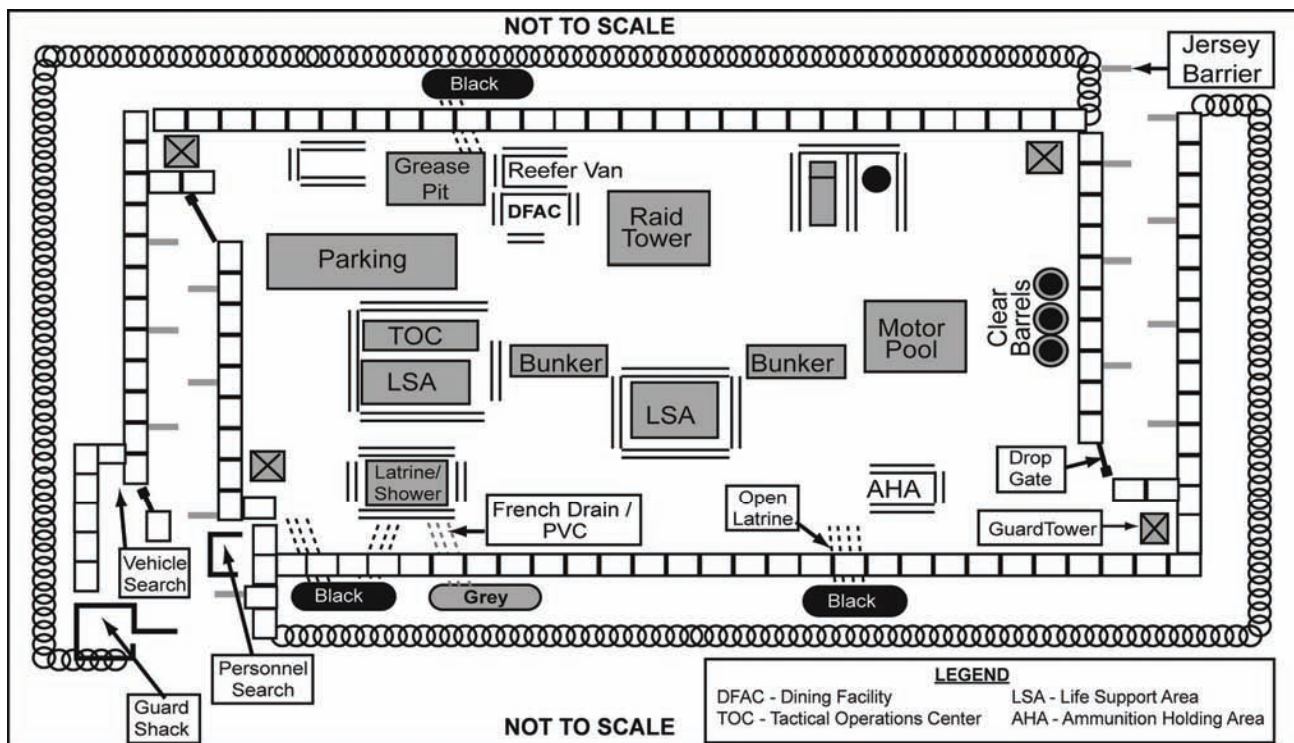
² FM 3-90, *Tactics*, cites the forms of maneuver as envelopment, turning movement, infiltration, penetration, and frontal attack.

³ 2/3 ID, "Arab Jabour: A Case Study of Counterinsurgency during OIF V," December 2007, p. 11.

⁴ 3/3 ID, "MND-C: Narhawan Case Study (3-3)," 26 November 2007, slide 16.

⁵ 3/3 ID, "MND-C: Narhawan Case Study (3-3)," 26 November 2007, slide 20.

⁶ 2/3 ID, "Arab Jabour: A Case Study of Counterinsurgency during OIF V," December 2007, p. 10-11.



Example Layout of a Patrol Base

JSTARS Support to the Maneuver Commander



A US Air Force (USAF) E-8C Joint Surveillance Target Attack Radar System (JSTARS) aircraft assigned to the 128th Expeditionary Air Command and Control Squadron (EACCS) takes off for a combat sortie over Iraq, in support of Operation IRAQI FREEDOM. (USAF photo by Staff Sgt Aaron D. Allmon II)

**By
Capt Bruce Avriett, USAF**

...JSTARS provides an excellent platform to gain and maintain situational awareness (SA) that is necessary to control the operational environment.

Since 2003, the Joint Surveillance Target Attack Radar System (JSTARS) has undergone a significant transformation in both its capability and its support to ground commanders. By mastering the art of maneuver, JSTARS provides an excellent platform to gain and maintain situational awareness (SA) that is necessary to control the operational environment. The days of waiting for the Russians to breach the Fulda Gap are gone. Instead, JSTARS is a valuable command and control (C2) platform with an intelligence, surveillance, and reconnaissance (ISR) capability that provides for immediate SA to help dominate any conflict. The "old" JSTARS was an excellent complement to our military but the new and improved JSTARS is vital to our future combat success. It has accomplished this by capitalizing on a

series of urgent operational needs (UON) requests and spiral upgrades. JSTARS now provides SA comprised of five data streams and 22 radios which are then fused with the aircraft's primary sensor the AN/APY-7. This sensor provides both a ground moving target indicator (GMTI) and synthetic aperture radar (SAR) capability. Once data fusion occurs on board the aircraft, it either becomes exploited by common ground stations (CGSs) collocated with ground commanders or is acted upon by the on-board battle management team which is part of the normal crew complement.

There have been three recent upgrades that have significantly added to the combat capability of JSTARS. These upgrades include: Airborne Networking (AIRNET), Force XXI Battle Command Brigade and Below (FBCB2), and Attack Support Upgrade (ASU)/Full Battle Management (FBM). These upgrades provided the largest gains in capability for the

JSTARS program. Each of the systems exponentially enhanced the SA of the crew as well as ground commanders receiving the JSTARS feed. These upgrades increase the accuracy and ability to quickly gain and maintain SA by supporting targeting through ground surveillance to develop enemy location data for rapid interdiction and retargeting of enemy ground forces.

The most significant upgrade, AIRNET, provides SECRET Internet Protocol Router Network (SIPRNET) connectivity via satellite communications (SATCOM) to the aircraft. Crews have used this system to their advantage in two ways. The first advantage is the ability to access Mardam-Bey Internet Relay Chat (mIRC) and electronically mail (e-mail) products to the ground. Tactical chat has become the de facto method of communication in the Allied Forces Central Europe (AFCENT) area of operations (AO). Anyone who has tuned a frequency into an ultra-high frequency (UHF) or very high frequency (VHF) radio knows they are increasingly lonely places. mIRC has connected JSTARS with an endless array of agencies which can now share tactical information, operations updates, as well as administrative information like air tasking orders (ATOs), special instructions (SPINS), and rapid changes in landing weather.

Inversely, the information JSTARS can share with other agencies is also greatly enhanced via SIPRNET e-mail access. For example, a crew providing overwatch of a house or neighborhood can e-mail hourly screen captures depicting any movement straight to the end user. This can help determine periods of activity for an objective on which a helicopter assault force (HAF) or ground assault force (GAF) can then action when they know someone is home. Ground elements can also e-mail information on dynamic operations to the aircraft, thus increasing the bat-

tle management crew's SA of the impending operation.

Today, AIRNET is most commonly used to mIRC with joint terminal attack controllers (JTACs) in order to provide overwatch of their AO. Crews stand watch looking for curfew violators as well as vehicles avoiding checkpoints. On numerous occasions crews have pointed out suspicious movement in remote areas of an AO. Quick reaction forces (QRFs) subsequently investigate those areas unveiling weapons caches and occasionally hostages.

As of late, crews flying in the AO have used AIRNET to tap into various data feeds from tower cameras as well as predators potentially enabling identification of tracks of interest. With the AIRNET update and the immediate availability to process, receive, and send data it is easy to understand the increase in SA that the "new" JSTARS can provide. However, AIRNET is not the only SA enhancing upgrade.

Today, AIRNET is most commonly used to mIRC with joint terminal attack controllers (JTACs) in order to provide overwatch of their AO.



Senior Airman Sean Edmonds (left), and Airman First Class Brandon Smith (right), Air Operations Technicians interpret radar return signals and work with on-board Air Weapons Officers and ground-based Air Force Joint Terminal Attack Controllers embedded with ground forces. (USAF photo by Master Sgt Lance Cheung)

FBCB2 is JSTARS' blue force tracker (BFT). Every operator on the aircraft now has FBCB2 fed to their consoles providing constant awareness of friendly troops. This information is vitally important given the nature of the non-linear

Using FBCB2, the crew would look for squirts and see if they were being engaged by the HAF/GAF or if they had an unimpeded run to safety.

fighters in Operation IRAQI FREEDOM (OIF) and Operation ENDURING FREEDOM (OEF). Crews have used FBCB2 in two ways. The first is communication with units down to platoon size via the collocated BFT terminals. While not as robust as mIRC, the text messages sent can be equally powerful especially if no other communication pathways exist. Secondly, the JSTARS crew uses the FBCB2 picture during various operations. For example, during an air assault, the crew would normally be charged with providing overwatch and looking for squirts (movement generally indicating insurgents trying to escape). Using FBCB2, the crew would look for squirts and see if they were being engaged by the HAF/GAF or if they had an unimpeded run to safety. In addition, the crew could expand out from the operation, look for any inbound movement indicating possible reinforcements, and either alert the ground commander or action on the movement as necessary with redirected air support.



US Marine Corps Sgt William Brewer provides security outside a mosque in Lahib, Iraq, 10 Jan 2009. (USMC photo by Lance Cpl Geoffrey T. Campbell)

The last SA increasing upgrade is the ASU/FBM. The first part, ASU, uses the Joint Tactical Information Distribution System (JTIDS) datalink to digitally link with aircraft in order to have them investigate, engage, or assess on ground tracks of interest. This feature is especially useful in a communications degraded or denied

environment. In essence, JSTARS crews are now better equipped to manage air assets under their control. This functionality allows aircraft to transmit their fuel state and ordnance remaining back to the crew who can then start arranging for aerial refueling or a return to base (RTB) as necessary. ASU also enables JSTARS to communicate with other C2 agencies such as Airborne Warning and Control System (AWACS) for aircraft handovers and pointouts of ground threats, via text messaging.

The second piece, FBM, is one of the latest upgrades to JSTARS. FBM unlocks the full functionality of JTIDS for the aircraft by enabling the use of all 6016C J-series message sets. This not only brings JSTARS into compliance with MIL-STD-6016C, it significantly enhances the JSTARS contribution to the overall theater-level common operational picture (COP) by providing the capability to amplify or extend the datalink network. FBM will enable JSTARS to transmit and receive imagery from other JTIDS capable players, receive enhanced electronic warfare information, and receive target area weather which may impact operations.

The unique SA-enhancing picture which JSTARS is able to create from numerous communication and data streams is now enhanced by AIRNET, FBCB2, and ASU/FBM, and provides ground commanders the actionable intelligence they need to dominate the operational environment. In addition, the on-board battle management team has the capability of supporting ground commanders with real time information unlike any other GMTI platform. These new capabilities have successfully evolved JSTARS from a cold war era aircraft into an agile system both aptly suited to today's counter-insurgent fight and well-prepared to take on any contingency in the future.

Joint Fires Observers— Growing Joint Fires Warriors to Help Shape the Battlefield



Army A Company, 2nd Battalion, 503rd Infantry Regiment (Airborne), Sgt Jonathan M. Guidrey, a forward observer, calls in coordinates from a mountainside, 18 May 2008, in the Narang Valley, Kunar province, Afghanistan, during Operation ENDURING FREEDOM. (USA photo by Spc Gregory Argentieri)

**By
MAJ Jim Egan, USA**

As the Army has increased the number of brigade combat teams (BCTs), the required number of Air Force joint terminal attack controllers (JTACs) to support maneuver operations has increased dramatically. Due to this increased JTAC demand the joint fires observer (JFO) concept was developed. This article focuses on the emerging JFO concept of execution. It also demonstrates the benefits a maneuver commander reaps by committing a forward observer to the 2-week training course and then ensuring they have time available to maintain their qualifications.

The following two scenarios highlight the advantage a JFO can provide for the maneuver commander's success in a combat situation.

The first scenario, a company commander had troops in contact in a village somewhere in Afghanistan. Insurgents sought cover in an abandoned building but the commander's unit was at the maximum range for the artillery fire base to attack the target. The Air Force JTAC was unavailable to support, but the fire support element (FSE) coordinated with their higher command for close air support (CAS). An A-10 pilot checked in with the commander on the ground and was able to attack the building with bombs. The commander talked the pilot onto the target, but it took an additional 30 minutes to attack the target. Although the "target talk on" was conducted relatively quickly, the commander did not have the background or expertise to understand the weapon effects involved with the mission. Several minutes passed as the pilot attempted to convince the

commander to move his Soldiers away from the target and find better cover.

The second scenario, a 10-man squad was returning from a patrol along a ridgeline near their base when they were ambushed by insurgent forces using small arms and rocket-propelled grenades. During a desperate fight in which all but three Soldiers were wounded, the platoon JFO called for and adjusted 120mm mortars to suppress the enemy. While controlling the fires of the mortars, he sent up requests for medical evacuation (MEDEVAC) and CAS. The A-10s arrived first, which the JFO used to provide aerial security and non-traditional intelligence, surveillance, and reconnaissance (ISR) to locate the enemy. As the MEDEVAC flight checked in, he shifted mortar fires and used the Apaches to provide 30mm and rocket fire on enemy positions. The JFO accomplished this while also coordinating two MEDEVAC locations, employing smoke to mark locations, and rendering buddy aid. In his report, he credited his JFO training for giving him the knowledge and skills that enabled him to save his squad.

These two scenarios provide examples of what can go wrong and what can go right in combat situations where air and surface fire support are required to accomplish a mission. Highly trained JTACs will be the air experts assigned to support ground commanders. However in both scenarios the battalion JTAC was not available to provide advice and terminal control of CAS. The crucial distinction between the two was the presence of a highly trained individual who represents an alternative solution to the problem of insufficient JTACs in the field, the JFO.

JTAC training and sustainment is expensive, coupled with expanding BCT requirements, results in chronic shortages for the career field. Additionally, JTACs are only resourced

down to the battalion level, and with the current shortage of qualified JTACs, this can leave a lot of uncovered areas in today's current operational environment of dispersed company and platoon sized units in noncontiguous areas of operations. Consequently these companies and platoons tasked to man remote outposts lack air expertise at their immediate location. In the former example above, the company commander did not have the CAS education and awareness of the aircraft's capabilities and potential munitions effects around the target area. The JFOs help to bridge the gap of both the JTAC's terminal attack control coverage and joint fires expertise down to the platoon level for ground commanders.



A night vision view of USA Sgt Will Daniels, a forward observer preparing to mark a target for illumination over Nasariyah, Iraq, 14 Oct 2008. (USA photo by Staff Sgt Brendan Stephens)

DEVELOPING THE JOINT FIRES OBSERVER CONCEPT

Operations IRAQI FREEDOM and ENDURING FREEDOM (OIF/OEF) dramatically shaped the Army/Air Force view of joint fires training for ground forces. Conventional and special operations forces (SOF) encountered numerous occasions in which joint fires, especially air delivered fires, were required but lacked the CAS expertise because there were not enough JTACs available for every maneuver operation. JTACs can operate remotely from the sup-

The JFOs help to bridge the gap of both the JTAC's terminal attack control coverage and joint fires expertise down to the platoon level for ground commanders.

ported unit when authorized by the maneuver commander to execute joint CAS (JCAS) control procedures Types 2 and 3. During Types 2 and 3 control, the JTAC acquires the target or targeting data from a scout, combat observation and lasing team (COLT), fire support team (FIST), unmanned aerial systems (UAS), SOF, or other assets with accurate real-time targeting information" (Joint Publication 3-09.3, *Joint Tactics, Techniques, and Procedures for Close Air Support*). These procedures could only be effective and efficient with observers who were trained in CAS procedures and integrated in the JTAC coverage plan.

In order to address this problem, the 2005 JCAS Executive Steering Committee's (ESC) JCAS Action Plan, Issue 16, addressed "the need to provide training to Forward Observers (FOs), Reconnaissance Marines, and Special Operators to better prepare them to execute Terminal Guidance Operations (TGO), and provide targeting support for Type 2 and Type 3 close air support (CAS) terminal attack control." Initially the Army explored the concept of a "Universal Observer" who would exercise terminal attack control authority. However, the initial training and currency training requirements to maintain this level of qualification were insurmountable obstacles with the limited technology and the number of air sorties available. The scope of the "Universal Observer" was redefined and renamed the JFO.

The JFO is a trained Service member who can request, adjust, and control surface-to-surface fires; provide targeting information in support of Types 2 and 3 CAS terminal attack controls; and perform autonomous TGO.

None of these tasks are new to our Soldiers. These tasks have always been within the observer skill set. However, just like a Soldier cannot effectively engage targets with

his rifle without initial training and regular qualification training, JFO tasks cannot be performed efficiently and accurately without regular formalized training. The JFO program provides the initial induction to the joint fires world by reinforcing the traditional forward observer skill set while providing additional in-depth training and evaluation on Naval Surface Fire Support, Close Combat Attack (CCA), AC-130 Call for Fire, and CAS tactics, techniques, and procedures (TTP). Semi-annual qualification training ensures the JFO stays proficient on current TTPs and knowledgeable on the most recent advances in doctrine and technology. Although JFO certification does not include the terminal attack authority of a JTAC, they can extend the JTACs coverage over the entire unit's area of operations when integrated into the JTAC coverage plan.

The JFO program provides the initial induction to the joint fires world by reinforcing the traditional forward observer skill set while providing additional in-depth training and evaluation...



US Army joint fire observers (JFO), discuss the coordinates of an enemy target during a concurrent JFO and Joint Terminal Air Controllers (JTAC) exercise, 29 Jan 2009, in Southern France. (USAF photo by Airman 1st Class Kenny Holston)

TRAINING JOINT FIRES OBSERVERS

The path to becoming a JFO begins with successful completion of the Joint Fires Observer Course (JFOC). This comprises 2 weeks of intensive academic study and practical applications through live or simulated surface fire and air-delivered fire events. The academic

standard requires a success rate of 80% during a closed book comprehensive examination. The simulation is likewise demanding, with almost 20% of students dismissed from the course for safety concerns or failure to apply correct procedures. All of the JFO's individual training is documented in a 'jacket' which the JFO receives upon graduation which is used to document their JFO training for the rest of their military career.

Once JFOs graduate the course, they need appointment orders from their chain of command designating them as JFOs. When this is done, the JFOs are qualified for 6 months from the time they completed the JFOC. Just like Soldiers require annual training on their rifles, JFOs require documented semiannual training to maintain their qualifications. This is accomplished by having an appointed JFO program manager who tracks JFO currency and ensures all required training events are met by developing a close working relationship with the supporting air support operations squadron (ASOS) and tactical air control party (TACP). Two training requirements for CAS or CCA are live events which can be executed in simulation with a waiver from the first O-6 in the chain of command. Since all of the JFO training events can be accomplished with either live or simulated systems, JFOs have better flexibility in maintaining their qualifications than JTACS who must have live CAS controls. However, maneuver commanders should still allow their JFOs to train with JTACs when controlling live CAS missions to participate in execution of their Type 2 controls. The benefits are that the JTAC receives credit for CAS controls and annual training requirements while the JFO gets credit for training events. The end result is a better working relationship within the joint fires team.

As a sensor system, JFOs provide JTACs with timely and accurate targeting data necessary for Types 2 and 3 controls.



USA Pvt Jeffery Hansen crouches down after launching a 60mm mortar round on a range at Forward Operating Base Lane in Afghanistan. (USA photo by Staff Sgt Adam Mancini)

SUPPORTING COMBAT OPERATIONS

On the battlefield, the JFO provides a direct benefit to the JTAC as well as the ground commander. Qualified JFOs who deploy into theater with an up-to-date training jacket are assigned specific call signs in theater. These call signs are tracked and published in the daily special instructions which accompany the air tasking order. As a sensor system, JFOs provide JTACs with timely and accurate targeting data necessary for Types 2 and 3 controls. Trained in the use of CAS terminology and TTPs, JFOs can rapidly provide JTACs with the targeting information for aircraft to get bombs on target. The ability to use JFOs in this role can significantly expand JTAC CAS areas of coverage when Types 2 and 3 controls are authorized by ground commanders. Units that properly execute this concept ensure that no combat patrol or remote outpost is without access to responsive CAS and surface fires support. Additionally, because of this training and habitual working relationship with JTACs, the JFO in essence becomes the 'CAS expert' at echelons below battalion where JTACs are not assigned. JFOs can advise their platoon and company leaders on aircraft capabilities and limitations, munitions effects and employment considerations, or joint fires planning considerations. They

are the ground commander's singular best Soldier option for coordination during emergency CAS (ECAS) situations.

The Army and Air Force have been aggressively advancing the JFO concept to meet the needs outlined in the 2005 JCAS ESC Action Plan, Issue 16. The program has been so successful in application that it has become a required deployment skill set for select 13F Forward Observers at the company level and below. The Chief of the Field Artillery, Major General Peter M. Vangiel, specifically called for permanent funding of the JFO program of instruction at the Fort Sill Fires Center of Excellence. The Director of Training of the Joint Multinational Training Center, Colonel Robert C. Rush (USA) and the Director of the US Air Forces in Europe (USAFE) Warrior Preparation Center (WPC), Colonel Scott E. Manning (USAF), recently facilitated the expansion of JFO training in Europe by 100% to meet the needs of the four European-based brigade combat teams. The 82nd Airborne Division, being fully aware of the cost benefit of this program, recently sent 36 Soldiers to Europe for JFO training because of insufficient slots in the continental United States (CONUS). The Commander 82nd Airborne Division, Major General Curtis M. Scaparrotti, and his staff showed keen insight by engaging the full capabilities of the WPC and accelerating their Soldiers readiness prior to operational deployment in order to give them the greatest edge on preparing the battlefield. Additionally, the US Marine Corps (USMC) has recently stood up their own JFO program after graduating several Marines from the US Army program. Finally, US Joint Forces Command (USJFCOM) and action officers from all Services are currently editing a new memorandum of agreement (MOA) which will result in its adoption as a joint program by USJFCOM. Canada, Great Britain,

Australia, and Norway are also anticipated to sign the MOA and accept USJFCOM oversight, making this not only a joint, but a multinational program.

Currently there are two Army/Air Force schools for the JFO program under the existing MOA. One is located at the Fires Center of Excellence at Fort Sill, Oklahoma, and the other is conducted at the USAFE Air-Ground Operations School (AGOS) in Einsiedlerhof, Germany. Fort Sill utilizes the Call for Fire Trainer (CFFT), while the USAFE AGOS currently uses the Indirect Fire-Forward Air Control Trainer (I-FACT) for execution of graded simulations. Both of these schools execute the US Army Program of Instruction which awards graduates with the Army additional skill identifier of L7, Joint Fires Observer. The USMC has also stood up a JFO school at Expeditionary Warfare Training Group, Atlantic (EWTGLANT) in Norfolk, Virginia. Expeditionary Warfare Training Group, Pacific (EWTGPAC) located at Naval Amphibious Base, Coronado, California, is anticipated to conduct a second USMC JFOC in the near future. The fact that these schools have been stood up within the last 4 years and graduated over 1,000 Soldiers is a significant accomplishment considering the usual pace of progress in the joint world. It is also a testament to the recent success of the JFO program and the enhanced capabilities it provides to maneuver commanders. This rapid growth in joint fires education opportunities will ultimately pay big dividends with more precise air-ground support, reduction of collateral damage, and elimination of friendly fire casualties. The momentum is there—Grow Joint Fires Warriors to Win on the Battlefield.

The Army and Air Force have been aggressively advancing the JFO concept to meet the needs outlined in the 2005 JCAS ESC Action Plan, Issue 16.

820th Security Forces Group— The Air Force's Base Defense Group



USAF Senior Airman Jared Cox, 732nd Expeditionary Security Forces Squadron, Detachment 3, patrols a neighborhood in Baghdad, Iraq, 30 Jan 2009, to ensure the area is secure for the country's provincial elections. (USAF photo by Senior Airman Daniel Owen)

**By
Mr. Robert D. Le Fever, Civilian,
USAF**

For the first time in Air Force history, a dedicated ground defense unit was formed from several career fields and integrated into a team that concentrated on base defense and force protection (FP).

The 1996 terrorist attack on Khobar Towers, which killed 19 Airmen, was a wakeup call for the US Air Force. It led to the creation of fulltime integrated base defense units to protect Air Force personnel and resources worldwide. For the first time in Air Force history, a dedicated ground defense unit was formed from several career fields and integrated into a team that concentrated on base defense and force protection (FP). This team was modeled after the Royal Air Force Regiment and became the 820th Security Forces Group (SFG), made up of select personnel who are airpower advocates, yet possess both airborne and infantry skills that enable them to operate with other Air Force security forces and integrate with US Army/foreign security forces. This new, dynamic, and flexible applica-

tion of forces adds an advantageous new element of combat power to maneuver by operating in and among the population and providing an additional maneuver form for an enemy threatening the security of US forces.

The 820 SFG is assigned to the 93rd Air Ground Operations Wing (AGOW) headquartered at Moody Air Force Base, Georgia. The 3rd and 18th Air Support Operations Groups (ASOGs) are also assigned to the 93rd and this is the first time that an ASOG and SFG have been combined to improve interoperability. Together they bring a unique option for the joint force/combatant commanders.

The 820 SFG compliments the 93 AGOW mission to "Fight the Base and Control the Attack" by providing *fully-integrated, highly capable, offensive and defensive ground combat forces to support Expeditionary Air Forces*. The 820th is the Air Force's only worldwide deployable "first-in" FP capability to go in to any potential

operating location. It integrates, trains, and equips 12 organic specialties to provide comprehensive force protection and assessment for expeditionary Air Forces. These specialties come from various career fields including organic intelligence, medical, communications, logistics, civil engineering, transportation, personnel, life support, and security forces.



US Army Soldiers assigned to Alpha Company, 2nd Brigade, 101st Airborne Division (Air Assault) stand by as helos take off in Iskandaria, Iraq, during an operation, 20 Dec 2007. (USN photo by Petty Officer 2nd Class Kim Smith)

Security forces squadrons (SFSs) are responsible for defending against ground attack. Unlike US Army infantry units, they are trained, equipped, and manned for the requirement of protecting high value air assets during operations across the spectrum of conflict. They are equipped with a range of direct fire systems, and special surveillance and night vision/fighting equipment. The unique nature of air operations is such that SFS personnel must have a specific understanding of its requirements in order to ensure that the tactics, techniques, and procedures employed do not disrupt those operations. Additionally, because airbases are fixed and their supporting elements are unable to redeploy

quickly, the SFS must optimize maneuver by applying combat power in ways that shape the surrounding battle space to prevent attacks and engage an attacking adversary at the earliest opportunity to prevent air operations from being disrupted. This requires SFS personnel to operate in small, less vulnerable groups, and be prepared to engage an adversary frequently in a manner similar to an infantry unit, without the level of support that would be commonplace to a US Army brigade combat unit.

SFSs employ aggressive defense, seeking to dominate the wider area around the base by mounting observation posts and dispersing patrols to locate and keep enemy forces off balance before they can come within striking distance. SFSs are divided into flights; each squadron contains substantial intelligence, surveillance, and reconnaissance (ISR) assets and lethal firepower, to include machine guns, automatic grenade launchers, portable anti-tank weapons, and snipers. In addition, the SFS is permanently manned, equipped, and trained to leverage joint fires and ISR resources. Given proper airlift support, SFG forces can normally execute a phased rapid deployment. An advance reconnaissance/assessment reach back team can be airborne to its objective within 12 hours and can insert forces via airborne and/or air land operations.

The 820 SFG's flexibility and responsiveness allow it to conduct high operations tempo (OPTEMPO) missions in the irregular warfare environment based on its unique capabilities and training. Additionally, special training or qualifications are established at different regional training centers for air expeditionary force (AEF) Airmen tasked via the rotational AEF schedule to fill high OPTEMPO requirements. Once these AEF Airmen are trained, equipped, and prepared for combat operations,

SFSs employ aggressive defense, seeking to dominate the wider area around the base by mounting observation posts and dispersing patrols to locate and keep enemy forces off balance before they can come within striking distance.

they are sent to reconstitute 820 SFG rapid reaction capability.

The deployed OPTEMPO for the 820 SFG is challenging. While it is best suited for operations at airfields where threats are considered “high,” or when the uncertain nature of the operating environment makes the threat difficult to predict and assess, the 820 SFG can also respond as a force protection enabler supporting AEF steady-state rotations. The 820 SFG may be presented as force modules, scalable and tailorable to the military task. The entire 820 SFG, including the combat operations squadron (COS) and SFSs, may be deployed to secure one air expeditionary wing (AEW) or individually to provide a specialized integrated ground defense capability. Planners should attempt to vector 820 SFG steady-state tasking towards deployments requiring its specialized capabilities.

The SFSs provide fully-integrated, highly capable and responsive FP operational capabilities for Expeditionary Air Forces.

The 820 SFG consists of a commander’s staff, combat operations squadron, and three SFSs that can be tailored to meet the mission need. 820 SFG FP elements may be characterized as a decidedly small, highly trained, mobile fighting force with heavy, light, medium firepower; organic ISR; and strong leadership. In order to understand the complexity of the 820 SFG a thorough discussion of the different parts of the group are required.

The commander’s Headquarters (HQ) staff carries out all traditional staff operation functions such as managing the standardization and evaluation program, budget, and manpower and ensuring assigned personnel are organized, trained, and equipped.

The COS is organized into staff functions consisting of numerous Air Force Specialty Codes (AFSCs). The COS provides operational support for the three SFSs. All personnel are ready to deploy at all times and maintain combat and specialty train-

ing standards. The COS oversees and directs the pre-deployment, deployment, employment, and redeployment/reconstitution cycle for the three SFSs and provides singular focused support to the deployed war fighter via existing reach back.

The SFSs provide fully-integrated, highly capable and responsive FP operational capabilities for Expeditionary Air Forces. These squadrons conduct specialized FP assessments for the SFG to protect Air Force resources at contingency locations. While the SFS is formed to deploy as a cohesive unit, it can operate or maneuver as part of the deployed SFG or as a stand-alone FP unit and it has the ability to command and control broader defense operations. The SFSs organic, multi-AFSC capability is maintained to a high, exacting state of competence and readiness. Each Airman is both a defender and a functional expert, uniquely trained and equipped for rapid deployment and expeditionary FP. Training and “all-levels-leadership” is emphasized to ensure a combat-ready force.



US Air Force Staff Sgt Robert Fowler gives water to King, his military working dog, during a clearing operation in the village of Tammuz, Iraq, 2 March 2009. (USN photo by Mass Communication Specialist 2nd Class Walter J. Pels)

Units from the 820 SFG ensure optimum protection of personnel, facilities, and equipment. They accomplish this task by planning or integrating all aspects of FP (i.e., base defense, combating terrorism,

physical security, engineering assessments, explosive ordnance disposal, readiness assessments, operations security, personal protective services, resource protection, intelligence, logistics, medical readiness).

While SFSs may be task-tailored down to the flight and squad level, every effort is taken to deploy the SFS as a squadron entity. In addition, organic AFSC capabilities, such as intelligence, communications, vehicle maintenance, and medics are not to be broken out from the unit, as this would severely handicap the unit's ability to operate as designed and damage unity of effort/unity of command principles for FP.

The group's home station mission is to train for contingencies and worldwide deployment. All members of the 820 SFG are "shooters" regardless of AFSC. They combine to bring their expertise together to defend the force. The group's organic specialties also provide the capability to train their own troops without depending on other organizations. This

offers maximum flexibility in training schedules and effective use of time. The SFG is successful because they train and deploy together as a unit.

Physical training and ground combat skills training are extremely important to the success of the 820 SFG Airmen. The Airmen of the 820 SFG spend their assignment training and deploying for contingencies. Thus they are not required to support a home station/garrison mission. After a tour in the 820 SFG members return to their functional areas as combat battlefield Airmen. Graduated personnel from the 820 SFG understand all Airmen defend the force and are able to pass-on experience and knowledge to others in the expeditionary Air Forces. Winston Churchill said it best in his June 29th, 1941 memo: "Every airfield should be a stronghold of fighting air-grounds men, and not the abode of uniformed civilians in the prime of life protected by detachments of soldiers."

While SFSs may be task-tailored down to the flight and squad level, every effort is taken to deploy the SFS as a squadron entity.



US Air Force Col Donald Derry, commander, 820th Security Forces Group (SFG), prepares for a static line parachute jump out of a C-17 Globemaster III aircraft over Moody Air Force Base GA, 5 Feb 2009. The 820 SFG did a joint jump with members of the UK Royal Air Force. (USAF photo by Senior Airman Gina Chiaverotti)

Evolution of EOD in the Combined Arms Fight



From left, a US Army Soldier assigned to Brigade Special Troops Battalion, 4th Infantry Brigade Combat Team, 10th Mountain Division provides security as Staff Sgt Tim Brochu and Sgt Brian Hutchins, both from 761st Explosive Ordnance Disposal, prepare to detonate an unexploded ordnance near Forward Operating Base Rustamiyah in Baghdad, Iraq, 22 Feb 2008. (USAF photo by Staff Sgt Jason T. Bailey)

By
COL Dick A. Larry, USA

The greatest advantage of combined arms is that it multiplies the effectiveness of Army capabilities used in combat or stability operations.

The evolution of Army explosive ordnance disposal (EOD) doctrine and force structure since 9/11 can only be described as transformational. Before 9/11 EOD was considered a very technical support function. However, given today's thinking and innovative enemy, the true worth of capabilities EOD has brought to bare are evident in how it has allowed the warfighter the freedom to take the battle to the enemy while simultaneously saving countless American lives. The EOD community is fully entrenched in supporting the maneuver commander. How this transformation towards maneuver has taken place over time is both remarkable and instructive.

Army Field Manual, FM 3.0, *Operations*, defines "Combined Arms" as the synchronized and simultaneous application of the elements of

combat power to achieve an effect greater than if each element of combat power was used separately or sequentially." The combined arms team merges leadership and information with six of the warfighting functions: 1) movement and maneuver, 2) fires, 3) intelligence, 4) sustainment, 5) command and control, and 6) protection¹, plus their supporting systems. Combining the various warfighting functions available to a commander essentially integrates different capabilities so that when the enemy reacts to one they can become vulnerable to the other warfighting functions. The greatest advantage of combined arms is that it multiplies the effectiveness of Army capabilities used in combat or stability operations.

Before 9/11 few commanders would have considered EOD units as members of the combined arms team. After 9/11 with the re-emergence of the improvised explo-

sive device (IED) as a weapon of war, the paradigm changed.

EOD forces are unique because of their mission to “render safe” explosive ordnance. This has made EOD a much sought after and necessary combat enabler. EOD forces also provide explosive ordnance exploitation which includes assisting in the collection and safe handling of explosive components of IEDs; plus their fuzing and firing systems, without destroying these critical bomb making components. The ability to provide useable intelligence derived from an IED can be exploited by identifying its component parts and provides commanders with necessary data to protect forces and develop appropriate tactics, techniques, and procedures (TTPs) to counter emerging threats. Most importantly, it assists our Soldiers in seeking out and apprehending or destroying the enemy and his ability to wage war. EOD capabilities now reside in most Army warfighting functions.



US Army Soldiers from 3rd Armored Cavalry Regiment use an M3A3 Bradley fighting vehicle to provide over-watch security as an explosive ordnance disposal team approaches a suspected improvised explosive device near Mansuriyat al Jabal, Iraq, 10 Jan 2008 (USAF photo by Staff Sgt Jason Robertson)

Within the Army, FM 3.0, *Operations*, states “A warfighting function is a group of tasks and systems (people, organizations, information, and processes) united by a common

purpose commanders use to accomplish missions and training objectives.” Because EOD is now used extensively to support the ground maneuver commander, it is most commonly categorized alongside the maneuver warfighting function. For example, because Army Combat Engineers have a role in removing obstacles from the battlefield that are often explosive in nature, there is a common misperception among Army Combat Engineers that EOD is a maneuver support warfighting function. However, in the current operational environment, EOD provides critical support across all six warfighting functions.

Worldwide EOD operational experience since 9/11 has proven this old viewpoint obsolete. The myriad of missions and tasks performed by EOD professionals on the battlefield today include, “post blast” analysis and exploitation of explosive scenes, technical intelligence, explosive ordnance battlespace awareness and target development, unexploded ordnance identification and disposal, explosive ordnance safety and protection, command and control of explosive ordnance expertise and management, protection explosive remnants of war (ERW) safety, management, identification and disposal tasks, explosive ordnance support to stability operations and assistance for route clearance, improvised explosive device defeat operations, unexploded explosive ordnance (UXO) mitigation and recognition, and explosive ordnance battlefield awareness. This list of tasks illustrates just a few ways EOD supports all aspects of the Army warfighting functions as a member of the combined arms team.

The Combined Arms Support Command (CASCOM) is the Army proponent to ensure EOD provides support across all warfighting functions and shapes the future use of EOD for full spectrum operations.

Because EOD is now used extensively to support the ground maneuver commander, it is most commonly categorized alongside the maneuver warfighting function.

EOD is a combined arms function and a fully integrated component of the Ordnance Corps for all aspects of explosive ordnance disposal missions and duties in support of EOD operations worldwide.



US Navy Explosive Ordnance Disposal Technicians 1st Class Aaron Ritter and Ben Jones, both with Explosive Ordnance Disposal Mobile Unit 1, gather unexploded ordnance in Tikrit, Iraq, 5 Dec 2008. (USN photo by Mass Communication Specialist 2nd Class Joan E. Kretschmer)

The EOD Soldier's ability to support maneuver commanders on the battlefield gets better every day...

The future of EOD is bright but fraught with uncertainty. Emerging threats and asymmetric tactics will always ensure EOD is at the forefront of support to the warfighter. As we move into our eighth year of war, the homeland defense mission in support of Homeland Security has also added to the mission load of our existing EOD force structure. Presidential Directive (HSPD) 19, "Combating Terrorist Use of Explosives in the United States," dated 12 February 2007, is an excellent example of how the special skills of EOD Soldiers are fully understood and has led to increased mission requirements in support of our nation. The capability to provide EOD support to civil authorities in dealing with ex-

plosive ordnance events is a critical task in the defense of the homeland. EOD is a proactive tool, not a consequence management asset, because it can provide an immediate response to explosive threats. If EOD Soldiers execute their mission correctly, the consequence management imperative to maintain, restore, or mitigate is alleviated or minimized.

The pre-9/11 firehouse mentality of EOD, "if you need us, call, and we will come," is gone. EOD Soldiers are combat hardened, dedicated, and mission focused professionals who are now active members of combined arms teams. Their technical skills and understanding of fuzing and firing is based on handling ordnance and unequaled by any other entity in the world. The EOD Soldier's ability to support maneuver commanders on the battlefield gets better every day, the current counter IED/IED defeat mission has allowed EOD to shine in support of full spectrum operations for our nation in any theater.

END NOTE

¹ FM 3.0. Commanders conceptualize capabilities in terms of combat power. There are eight elements of combat power. These are leadership, information, movement and maneuver, intelligence, fires, sustainment, command and control, and protection. Leadership and information are applied through, and multiply the effects of, the other six elements of combat power. These six are: movement and maneuver, intelligence, fires, sustainment, command and control, and protection—are collectively described as the warfighting functions.

CURRENT ALSA PUBLICATIONS

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TITLE	DATE	PUB #	DESCRIPTION / STATUS
AOMSW <i>Multi-Service Tactics, Techniques, and Procedures for Air Operations in Maritime Surface Warfare</i> Distribution Restricted	17 NOV 08	NTPP 3-20.8 AFTTP 3-2.74	Description: This publication consolidates Service doctrine, TTP, and lessons-learned from current operations and exercises to maximize the effectiveness of "air attacks on enemy surface vessels". Status: Current
AVIATION URBAN OPERATIONS <i>Multi-Service Tactics, Techniques, and Procedures for Aviation Urban Operations</i> Distribution Restricted	9 JUL 05	FM 3-06.1 MCRP 3-35.3A NTPP 3-01.04 AFTTP 3-2.29	Description: Provides MTTP for tactical-level planning and execution of fixed- and rotary-wing aviation urban operations. Status: Assessment
IADS <i>Multi-Service Tactics, Techniques, and Procedures for an Integrated Air Defense System</i> Distribution Restricted	12 OCT 04	FM 3-01.15 MCRP 3-25E NTPP 3-01.8 AFTTP 3-2.31	Description: Provides joint planners with a consolidated reference on Service air defense systems, processes, and structures to include integration procedures. Status: Revision
JFIRE <i>Multi-Service Procedures for the Joint Application of Firepower</i> Distribution Restricted	17 DEC 07	FM 3-09.32 MCRP 3-16.6A NTPP 3-09.2 AFTTP 3-2.6	Description: Pocket size guide of procedures for calls for fire, CAS, and naval gunfire. Provides tactics for joint operations between attack helicopters and fixed-wing aircraft performing integrated battlefield operations. Status: Current
JSEAD / ARM-J <i>Multi-Service Tactics, Techniques, and Procedures for the Suppression of Enemy Air Defenses in a Joint Environment</i> Classified SECRET	28 MAY 04	FM 3-01.4 MCRP 3-22.2A NTPP 3-01.42 AFTTP 3-2.28	Description: Contributes to Service interoperability by providing the JTF and subordinate commanders, their staffs, and SEAD operators a single, consolidated reference. Status: Assessment
JSTARS <i>Multi-Service Tactics, Techniques, and Procedures for the Joint Surveillance Target Attack Radar System</i> Distribution Restricted	16 NOV 06	FM 3-55.6 MCRP 2-1E NTPP 3-55.13 AFTTP 3-2.2	Description: Provides procedures for the employment of JSTARS in dedicated support to the JFC. Describes multi-Service TTP for consideration and use during planning and employment of JSTARS. Status: Current
KILL BOX <i>Multi-Service Tactics, Techniques, and Procedures for Kill Box Employment</i> Distribution Restricted	13 JUN 05	FM 3-09.34 MCRP 3-25H NTPP 3-09.2.1 AFTTP 3-2.59	Description: Assists the Services and JFCs in developing, establishing, and executing Kill Box procedures to allow rapid target engagement. Describes timely, effective multi-Service solutions to FSCMs, ACMs, and maneuver control measures with respect to Kill Box operations. Status: Revision
SCAR <i>Multi-Service Tactics, Techniques, and Procedures for Strike Coordination and Reconnaissance</i> Distribution Restricted	24 Nov 08	FM 3-60.2 MCRP 3-23C NTPP 3-03.4.3 AFTTP 3-2.72	Description: This publication provides strike coordination and reconnaissance (SCAR) MTTP to the military Services for the conduct of air interdiction against targets of opportunity. Status: Current
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TAGS <i>Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System</i> Distribution Restricted/ REL ABCA	10 APR 07	FM 3-52.2 NTPP 3-56.2 AFTTP 3-2.17	Description: Promotes Service awareness regarding the role of airpower in support of the JFC's campaign plan, increases understanding of the air-ground system, and provides planning considerations for the conduct of air-ground ops. Status: Current

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TITLE	DATE	PUB #	DESCRIPTION / STATUS
TST <i>Multi-Service Tactics, Techniques, and Procedures for Targeting Time-Sensitive Targets</i> Distribution Restricted	20 APR 04	FM 3-60.1 MCRP 3-16D NTP 3-60.1 AFTTP 3-2.3	Description: Provides the JFC, the operational staff, and components MTTP to coordinate, de-conflict, synchronize, and prosecute TSTs within any AOR. Includes lessons learned, multinational and other government agency considerations. Status: Revision
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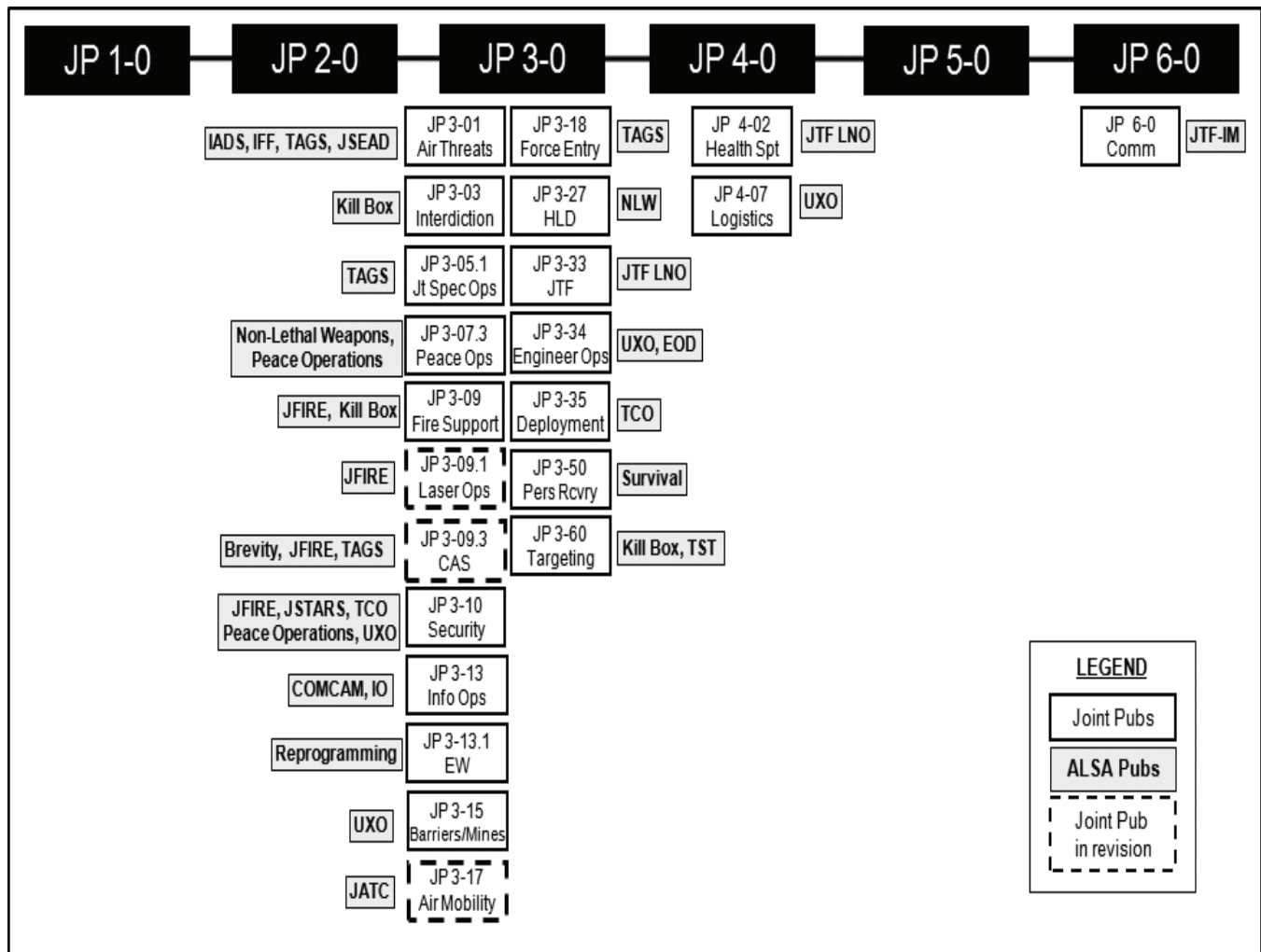
TITLE	DATE	PUB #	DESCRIPTION / STATUS
AIRFIELD OPENING <i>Multi-Service Tactics, Techniques, and Procedures for Airfield Opening</i> Distribution Restricted	15 May 07	FM 3-17.2 NTP 3-02.18 AFTTP 3-2.68	Description: A quick-reference guide to opening an airfield in accordance with MTTP. Contains planning considerations, airfield layout, and logistical requirements for opening an airfield. Status: Current
CORDON AND SEARCH <i>Multi-Service Tactics, Techniques, and Procedures for Cordon and Search Operations</i> Distribution Restricted	25 APR 06	FM 3-06.20 MCRP 3-31.4B NTP 3-05.8 AFTTP 3-2.62	Description: Consolidates the Services' best TTP used in cordon and search operations. Provides MTTP for the planning and execution of cordon and search operations at the tactical level of war. Status: Current
EOD <i>Multi-Service Tactics, Techniques, and Procedures for Explosive Ordnance Disposal in a Joint Environment</i> Approved for Public Release	27 OCT 05	FM 4-30.16 MCRP 3-17.2C NTP 3-02.5 AFTTP 3-2.32	Description: Provides guidance and procedures for the employment of a joint EOD force. It assists commanders and planners in understanding the EOD capabilities of each Service. Status: Current
MILITARY DECEPTION <i>Multi-Service Tactics, Techniques, and Procedures for Military Deception</i> Classified SECRET	12 APR 07	MCRP 3-40.4A NTP 3-58.1 AFTTP 3-2.66	Description: Facilitate the integration, synchronization, planning, and execution of MILDEC operations. Serve as a "one stop" reference for service MILDEC planners to plan and execute multi-service MILDEC operations. Status: Current
NLW <i>Multi-Service Service Tactics, Techniques, and Procedures for the Tactical Employment of Nonlethal Weapons</i> Approved for Public Release	16 AUG 07	FM 3-22.40 MCWP 3-15.8 NTP 3-07.3.2 AFTTP 3-2.45	Description: Supplements established doctrine and TTP providing reference material to assist commanders and staffs in planning/coordinating tactical operations. It incorporates the latest lessons learned from real world and training operations and examples of TTP from various sources. Status: Current
PEACE OPS <i>Multi-Service Tactics, Techniques, and Procedures for Conducting Peace Operations</i> Approved for Public Release	26 OCT 03	FM 3-07.31 MCWP 3-33.8 AFTTP 3-2.40	Description: Provides tactical-level guidance to the warfighter for conducting peace operations. Status: Change 1 - Signature Draft
TACTICAL CONVOY OPERATIONS <i>Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations</i> Distribution Restricted	15 JAN 09	FM 4-01.45 MCRP 4-11.3H NTP 4-01.3 AFTTP 3-2.58	Description: Consolidates the Services' best TTP used in convoy operations into a single multi-Service TTP. Provides a quick reference guide for convoy commanders and subordinates on how to plan, train, and conduct tactical convoy operations in the contemporary operating environment. Status: Signature Draft
TECHINT <i>Multi-Service Tactics, Techniques, and Procedures for Technical Intelligence Operations</i> Approved for Public Release	9 JUN 06	FM 2-22.401 NTP 2-01.4 AFTTP 3-2.63	Description: Provides a common set of MTTP for technical intelligence operations. Serves as a reference for Service technical intelligence planners and operators. Status: Current
UXO <i>Multi-Service Tactics, Techniques, and Procedures for Unexploded Explosive Ordnance Operations</i> Approved for Public Release	16 AUG 05	FM 3-100.38 MCRP 3-17.2B NTP 3-02.4.1 AFTTP 3-2.12	Description: Describes hazards of UXO submunitions to land operations, addresses UXO planning considerations, and describes the architecture for reporting and tracking UXO during combat and post conflict. Status: Current

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TITLE	DATE	PUB #	DESCRIPTION / STATUS
BREVITY <i>Multi-Service Brevity Codes</i> Distribution Restricted	30 OCT 07	FM 1-02.1 MCRP 3-25B NTPP 6-02.1 AFTTP 3-2.5	Description: Defines multi-Service brevity which standardizes air-to-air, air-to-surface, surface-to-air, and surface-to-surface brevity code words in multi-Service operations. Status: Current
CIVIL SUPPORT <i>Multi-Service Tactics, Techniques, and Procedures for Civil Support Operations</i> Distribution Restricted	3 DEC 07	FM 3-28.1 NTPP 3-57.2 AFTTP 3-2.67	Description: Fills the Civil Support Operations MTPP void and assists JTF commanders in organizing and employing Multi-Service Task Force support to civil authorities in response to domestic crisis. Status: Current
COMCAM <i>Multi-Service Tactics, Techniques, and Procedures for Joint Combat Camera Operations</i> Approved for Public Release	15 MAY 07	FM 3-55.12 MCRP 3-33.7A NTPP 3-13.12 AFTTP 3-2.41	Description: Fills the void that exists regarding combat camera doctrine and assists JTF commanders in structuring and employing combat camera assets as an effective operational planning tool. Status: Current
HAVE QUICK <i>Multi-Service Tactics, Techniques, and Procedures for HAVE QUICK Radios</i> Distribution Restricted	7 MAY 04	FM 6-02.771 MCRP 3-40.3F NTPP 6-02.7 AFTTP 3-2.49	Description: Simplifies planning and coordination of HAVE QUICK radio procedures. Provides operators information on multi-Service HAVE QUICK communication systems while conducting home station training or in preparation for interoperability training. Status: Assessment
HF-ALE <i>Multi-Service Tactics, Techniques, and Procedures for the High Frequency-Automatic Link Establishment (HF-ALE) Radios</i> Distribution Restricted	20 Nov 07	FM 6-02.74 MCRP 3-40.3E NTPP 6-02.6 AFTTP 3-2.48	Description: Standardizes high power and low power HF-ALE operations across the Services and enables joint forces to use HF radio as a supplement / alternative to overburdened SATCOM systems for over-the-horizon communications. Status: Current
IDM <i>Multi-Service Tactics, Techniques, and Procedures for the Improved Data Modem Integration</i> Distribution Restricted	30 MAY 03	FM 6-02.76 MCRP 3-25G NTPP 6-02.3 AFTTP 3-2.38	Description: Provides digital connectivity to a variety of attack and reconnaissance aircraft, facilitates exchange of near-real-time targeting data, and improves tactical situational awareness by providing a concise picture of the multi-dimensional battlefield. Status: Assessment
IFF <i>MTPP for Mark XII IFF</i> <i>Mode 4 Security Issues in a Joint Integrated Air Defense System</i> Classified SECRET	11 DEC 03	FM 3-01.61 MCWP 3-25.11 NTPP 6-02.2 AFTTP 3-2.39	Description: Educates the warfighter to security issues associated with using the Mark XII IFF Mode 4 Combat Identification System in a joint integrated air defense environment. Captures TTP that addresses those security issues. Status: Merged with revision of IADS. Will rescind when IADS revision is complete.
JATC <i>Multi-Service Procedures for Joint Air Traffic Control</i> Distribution Restricted	17 JUL 03	FM 3-52.3 MCRP 3-25A NTPP 3-56.3 AFTTP 3-2.23	Description: Provides guidance on ATC responsibilities, procedures, and employment in a joint environment. Discusses JATC employment and Service relationships for initial, transition, and sustained ATC operations across the spectrum of joint operations within the theater or AOR. Status: Signature Draft
JTF IM <i>Multi-Service Tactics, Techniques, and Procedures for Joint Task Force Information Management</i> Distribution Restricted	10 SEP 03	FM 6-02.85 (FM 101-4) MCRP 3-40.2A NTPP 3-13.1.16 AFTTP 3-2.22	Description: Describes how to manage, control, and protect information in a JTF headquarters conducting continuous operations. Status: Assessment
JTF LNO Integration <i>Multi-Service Tactics, Techniques, and Procedures for Joint Task Force (JTF) Liaison Officer Integration</i> Distribution Restricted	27 JAN 03 Retained in March 06	FM 5-01.12 (FM 90-41) MCRP 5-1.B NTPP 5-02 AFTTP 3-2.21	Description: Defines liaison functions and responsibilities associated with operating a JTF. Status: Assessment

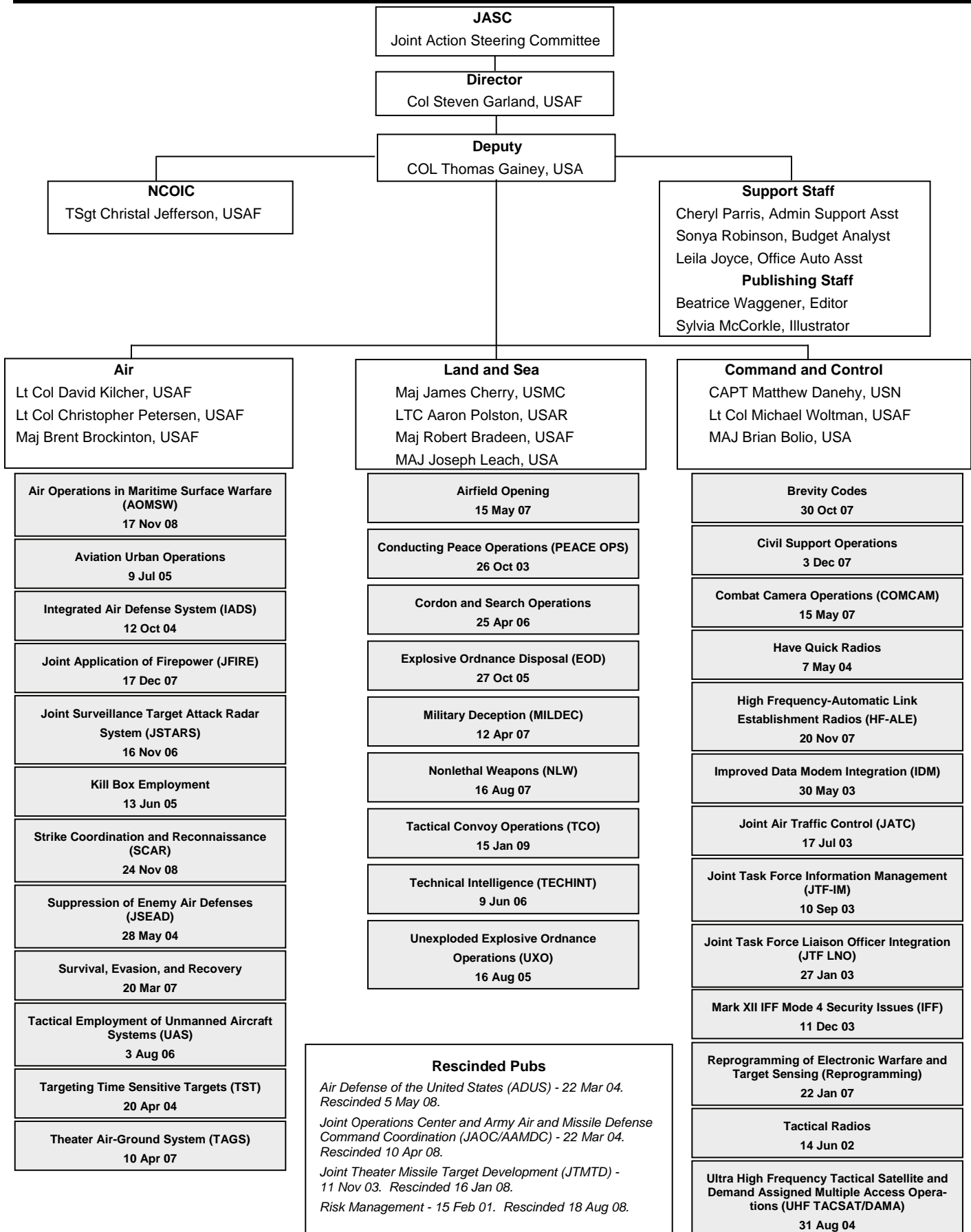
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TITLE	DATE	PUB #	DESCRIPTION / STATUS
REPROGRAMMING <i>Multi-Service Tactics, Techniques, and Procedures for the Reprogramming of Electronic Warfare and Target Sensing Systems</i> Distribution Restricted	22 JAN 07	FM 3-13.10 (FM 3-51.1) NTPP 3-51.2 AFTTP 3-2.7	Description: Supports the JTF staff in planning, coordinating, and executing reprogramming of electronic warfare and target sensing systems as part of joint force command and control warfare operations. Status: Assessment
TACTICAL RADIOS <i>Multi-Service Communications Procedures for Tactical Radios in a Joint Environment</i> Approved for Public Release	14 JUN 02	FM 6-02.72 MCRP 3-40.3A NTPP 6-02.2 AFTTP 3-2.18	Description: Standardizes joint operational procedures for SINCGARS and provides an overview of the multi-Service applications of EPLRS. Status: Assessment
UHF TACSAT/DAMA <i>Multi-Service Tactics, Techniques, and Procedures Package for Ultra High Frequency Tactical Satellite and Demand Assigned Multiple Access Operations</i> Approved for Public Release	31 AUG 04	FM 6-02.90 MCRP 3-40.3G NTPP 6-02.9 AFTTP 3-2.53	Description: Documents TTP that will improve efficiency at the planner and user levels. (Recent operations at JTF level have demonstrated difficulties in managing limited number of UHF TACSAT frequencies.) Status: Assessment

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